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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/770,491

01/29/2001

Janne Kallio

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7590

02/26/2008

SQUIRE, SANDERS & DEMPSEY L.L.P.

14TH FLOOR

8000 TOWERS CRESCENT

TYSONS CORNER, VA 22182

EXAMINER

D AGOSTA, STEPHEN M

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

02/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/770,491

Applicant(s)

KALLIO, JANNE

Examiner

Stephen M. D'Agosta

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-33, 35, 43, 45-56 and 58-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-33, 35-41, 46 and 64-66 is/are allowed.
- 6) ☒ Claim(s) 42, 45, 47-51, 55, 56, 58-60, 62 and 67-75 is/are rejected.
- 7) ☒ Claim(s) 43, 52-54, 61 and 63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 1-23-08 has been entered.

- The examiner notes that the applicant's concept discusses seamless handoff which is a well known concept (eg. soft handoff, etc). Seamless roaming is a concept put forth and is also well known. Furthermore, the ability for one base station/access point to support more than one technology is known (eg. a BTS can be equipped with different transceivers for AMPS, GSM, CDMA, WLAN, etc). Hence a mobile will "see" two virtual BTS's when there is really just the one which is, for example, broadcasting two pilots (eg. system 1 pilot and system 2 pilot)
- **Stein ('468)**, pertinent but not cited, teaches a multi-purpose BTS that can be fit with more than one access technology - see figures 5-6 and 7b). Figure 5 shows one access technology on a BTS while figure 6 shows two different transmitters. Figure 7 shows how a mobile would connect to either the first network on second network via that "one" BTS. It is the opinion of the examiner that the applicant's claims can be viewed as teaching a virtual, multi-access BTS since it supports different technologies and "spoofs" that there are two different physical access points (eg. similar to Stein who teaches a similar concept). If one skilled were to take Stein's "physical design" and incorporate it with the "conceptual designs" of the prior art of record, it is the examiner's position that the combined teachings read on the claims

- Also, see **Jarrett ('645)** who teaches a multi-purpose base station that can support multiple RF links (eg. DECT, GSM, etc).
- See **Boyer ('963)** who teaches borrowing a cell identity from a neighboring BTS.
- See **Smith ('841)** who teaches a multi-band antenna for a BTS that would use it to transmit/receive multiple RF access technology transmissions (eg. for first and second networks).
- The claims which specifically state "***using the cell identity stored in the store***" contain novel concepts.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 42, 45, 47-51, 55-56, 58-60, 62 and 67-75 rejected under 35 U.S.C. 103(a) as being unpatentable over Ray et al. US 6,424,638 and further in view of {Keski-Heikkilä et al. US 6,882,844 or Vikberg et al. US 6,925,074} and Ritter US 6,289,221.

As per **claims 42, 49, 55, 59 and 62**, Ray teaches an apparatus for a first telecommunication network (Abstract teaches a mobile handing over between two different networks), the apparatus comprising:

a data store to store a cell identity information for a cell of the first telecommunication network (Figure 1, shows an HLR #26 and VLR #16),

wherein the apparatus is configured to allow the cell of the first telecommunication network to be identified as a neighboring cell ~~by a cell~~ of the second

telecommunication network (Abstract teaches serving and target MSC's which inherently infers a target BTS/cell which will support the mobile after handoff. The examiner notes that neighbor lists are well known in cellular networks and inherently include a list of BTS's the mobile can handoff to, depending upon their location and signal strength),

but is silent on using a cell identity information structure of a second telecommunication network AND wherein the first telecommunications network is a different network from the second telecommunications network.

Ritter teaches a mobile system (Abstract) whereby coverage areas are supported by multiple wireless technologies (eg. figure 1 shows each "cell" supporting both GSM and TD/CDMA technologies which connect to a **COMMON BSC/MSC** architecture). The examiner notes that since the cells connect back to a common BSC/MSC architecture, that the system can inherently provide a handoff from one technology to the other which would thus occur if one system is being interfered with while the other is not. Hence These two BTS's can conceivably transmit either separate beacons and/or dual beacons whereby each technology can look like the other technology simply because they use a common BSC/MSC architecture).

The examiner notes that Ray teaches the need to translate protocols and data between the two networks:

With all of these different types of wireless communications systems available, seamless roaming from one type of system to another has posed significant problems for the industry. For example, if a mobile subscriber is involved in a wireless call, and the call needs to be handed over to another type of system in order to continue the call, conversion and interface devices are needed to perform this task. One device that exists today to perform such handovers between D-AMPS and GSM systems is a Roam-Free Gateway (RFG), formerly known as an Interworking Location Register (ILR). The RFG acts as a gateway that converts the protocols of the **signaling** and voice communications between the systems to enable the two systems to communicate effectively in order to perform call handovers. (C1, L39-56)

Therefore, in accordance with aspects of the present invention, the currently serving GSM MSC 14a sends an identity message 315, including location information 318, e.g., X, Y coordinates and preferably a coverage area radius, for the GSM base station 25a, to an Internet Gatekeeper 320 via an Internet Gateway 310a for the GSM system 350 (step 415). The GSM Internet Gateway 310a converts the GSM identity message 315 into Internet Protocol (IP) packets 335 containing the identity message 315 and location information 318, and routes the IP packets 335 through an Internet 330 to the Internet Gatekeeper 320 for the area that includes the GSM MSC 14a. This identity message 315 preferably inquires whether there are any other types of wireless systems nearby that the call can be handed over to. Alternatively, the GSM MSC 14a may have knowledge about the existence of another type of system nearby, and the identity message 315 may seek confirmation of the existence of the other type of system from the Internet Gatekeeper 320. (C4, L52 to C5, L5)

Keski-Heikkilä teaches a permanent Cell ID (see C4, L39-46) which can be viewed as a "common" Cell ID format. Hence, the applicant uses one network's structure to represent the Cell ID while Keski-Heikkilä uses a method whereby his "permanent" format can be used in a similar manner, eg. sending the mobile the permanent Cell ID. Furthermore, Keski-Heikkilä teaches generically modifying the Cell ID format/structure which broadly reads on the applicant's broad claims. Further to this point, Vikberg teaches a High Speed access point which "mimics" a cellular BTS in regard to the information it broadcasts (C5, L5-30):

The element of the fixed access network portion 10' adapted to communicate across the Bluetooth interface is designated a local or home base station (HBS) 104. This element handles the radio link protocols with the mobile terminal MT 1 and contains radio transceivers that define a cell in a similar manner to the operation of a conventional GSM base station transceiver BTS 103. The home base station HBS 104 is controlled by a home base station controller HBSC 105, which communicates with a mobile service switching centre MSC 202 over the GSM standard A interface and also with a serving GPRS support node SGSN 203

over a standard Gb interface, if available in the core network portion.

The combination above discloses using one (or more) identities/structures whereby either there can be two separate network access points using different structures and/or one access point that broadcasts/stores a cell identity in a first and second network structure. One skilled sees that both are inherently the same and read on each other. Furthermore, the recent KSR court case ruled that one of ordinary ingenuity would be so inclined to perform various tests (within the spirit and scope of the original design) and would hence arrive at a similar design.

It would have been obvious to one skilled in the art at the time of the invention to modify Ray, such using a cell identity information structure of a first/second telecommunication network ~~and one network being either WLAN, Bluetooth or WCDMA, to provide means for~~ using an "alternate" Cell ID to make the mobile think that a listing in the neighbor list is from the same network they are operating on currently and that they can connect to it in a handoff operation.

With further regard to claim 59, the combination of Ray, Keski-Heikkilaet and Ritter together teaches wherein the cell identity of the second network comprises at least one of frequency, BTS ID or location area (eg. Ritter teaches transmitting frequency information, eg. carrier, see figures 4, 5 and 6).

With further regard to claims 42 and 49, the combination of Ray, Keski-Heikkilaet and Ritter together teach a method to support a seamless mobility/handoff between the two networks.

With further regard to claims 67-75, the combination of Ray, Keski-Heikkilaet and Ritter together teach a method to networks comprised of WLAN, Bluetooth and/or WCDMA.

As per **claims 45 and 58**, Ray teaches claim 35/42/55, wherein the second telecommunication network is GSM network (Abstract teaches GSM network(s)).

As per **claim 47**, Ray teaches claim 42, wherein the apparatus is a network element (Figure 1, shows an HLR #26 and VLR #16 which are network components/elements).

As per **claim 48**, Ray teaches claim 31 wherein the handover module has been implemented in the mobile unit (the examiner takes Official Notice that MAHO handoffs are well known and are assisted by the mobile).

As per **claim 50**, Ray teaches claim 49, further comprising storing the cell information in a neighbor list of neighboring cells of the second telecommunication network (neighbor lists are inherent to cellular networks and Official Notice is taken)

As per **claim 51**, Ray teaches claim 49, wherein the transmitting is done in a cell of the second network (eg. the proximate network transmits a beacon which is received by a first network and it can be included in the neighbor list) AND Cell-ID information of the cell of the first network includes neighbor information given by the cell of the second network (see rejection(s) for independent claim(s), eg. claim 49 or 55).

As per **claim 56**, Ray teaches claim 55, further comprising means of measuring of signal level of radio transmitters in the first telecommunication network and the second telecommunication network (C3, L45-46 teaches "collecting measurements" which are signal level measurements).

.....

As per **claim 60**, Ray teaches claim 55, wherein the mobile station has means for transmitting the signal level to at least one of the first telecommunication network and the second telecommunication network (C3, L45-46 teaches both the MS or BTS taking measurements. MAHO handoffs are well known and the mobile takes measurements and sends them to the network).

.....

Allowable Subject Matter

1. Claims 31-33, 35-41, 46 and 64-66 are allowed.

These claims state that:

a data store configured to store a cell identity information for a cell of a first telecommunication network using a cell identity information structure of a second telecommunication network; and wherein the apparatus is configured to allow an identifier configured to identify the cell of the first telecommunication network to be identified as a neighboring cell by the second telecommunication network using the cell identity information stored in the data store wherein the first telecommunications network is a different network from the second telecommunications network.

Thus the novelty is found in the fact that a cell identity is stored using the cell identity of a second, different network.

2. **Claims 43, 52-54, 61 and 63** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

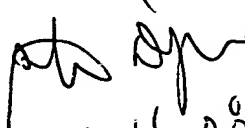
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and found in the PTO-892 form attached.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

STEVE M. D'AGOSTA
PRIMARY EXAMINER


2-4-00